Association of Reproductive Health Professionals

What You Need to Know
The Facts About Intrauterine Contraception

Intrauterine contraception (IUC), also referred to as an intrauterine device (IUD) or intrauterine system (IUS), is a long-acting, reversible contraceptive method that involves the placement of a small, flexible, T-shaped device inside the uterus.

Because IUC uses either non-hormonal ingredients (in the Copper T IUD) or progestin (in the levonorgestrel (LNG) intrauterine system) to prevent fertilization, it is a good contraceptive choice for women who cannot or prefer not to use estrogen.

How does IUC work?

A large body of evidence demonstrates that IUC prevents pregnancy by preventing fertilization.[1]

The Copper T IUD causes an immune response that creates a hostile environment for sperm, thereby preventing fertilization of an ovum.[1] It appears that the device also affects the function and viability of gametes, reducing the chance of survival of any embryo that is formed before it reaches the uterus.[1]

The LNG IUS also causes an inflammatory reaction that creates a hostile environment for sperm. In addition, it appears to thicken cervical mucus and inhibit sperm motility and function.[2]

What types of IUC are available?

Three types of IUC are available in the US: two are LNG IUS (brand names Mirena® and Skyla™), and the third is Copper T 380A (brand name ParaGard®), which is composed of copper and contains no hormones. All three are extremely effective at preventing pregnancy and are rapidly reversible. The table compares these three types of IUC.

How effective is IUC at preventing pregnancy?

The Copper T IUD is effective immediately after insertion and has a failure rate of 0.8 percent with typical use.Mirena is effective seven days after insertion and has a failure rate of 0.2 percent with typical use.[3] Like Mirena, Skyla is effective seven days after insertion. The failure rate of Skyla in a clinical trial was 0.9 percent.[4]

Is IUC an option for nulliparous women?

IUC can be used safely in women who have not had a child. The use of IUC will not increase the risk of infertility in these women.

Table: Comparison of IUC Methods Available in the United States [4,5,6,7,8,9,10,11,12,13]			
	Copper T 380A	**LNG IUS**	
Brand Name	**Paragard**	**Mirena**	**Skyla**
Description	T-shaped polyethylene frame with approximately 176 mg of copper wire coiled along the vertical stem and a 68.7-mg collar on each side of the horizontal arm	T-shaped polyethylene frame with a steroid reservoir containing 52 mg of LNG; releases approximately 20 mcg per day, decreasing to half that value after 5 years	T-shaped polyethylene frame with a steroid reservoir containing a total of 13.5 mg of LNG; releases approximately 14 mcg per day after 25 days, decreasing to 5 mcg per day after 3 years
Size of device	32 mm horizontally and 36 mm vertically	32 mm both horizontally and vertically	28 mm horizontally and 30 vertically
Contraindications	Pregnancy; uterine anomaly, infection, unexplained bleeding, or malignancy; Wilson's disease	Pregnancy; uterine anomaly, unexplained bleeding, infection, or malignancy; liver disease or tumor	Same as for Mirena
Most common side effects	Menstrual bleeding alterations, backache, dysmenorrhea, dyspareunia, leukorrhea, urticarial allergic skin reaction, vaginitis, device expulsion	Menstrual bleeding alterations, abdominal or pelvic pain, ovarian cysts, headache or migraine, acne, depressed or altered mood, breast tenderness or pain, device expulsion	Menstrual bleeding alterations, vulvovaginitis, abdominal or pelvic pain, acne or seborrhea, ovarian cyst; headache, dysmenorrhea, breast pain or discomfort, nausea, device expulsion
Effect on bleeding patterns	Often, increased amount and duration of bleeding; approximately 50% increase in blood loss	Unpredictable, with frequent light bleeding for the first three months. By three to six months, usually dramatically reduced bleeding. Amenorrhea in about one-third of users after 12 months	Spotting and irregular or heavy bleeding during the first three to six months. By three months, periods may be shorter, lighter, or both. Cycles may remain irregular, become infrequent, or cease
Use as emergency contraception	Yes	No	No
Duration of approved use	10 years	5 years	3 years

*Data on ParaGard tube size provided by Teva US Medical Information, 2013.
See product labeling for full description of contraindications and other prescribing information.

Does the use of IUC increase the risk of sexually transmitted infections, pelvic inflammatory disease, or infertility?

Patients should be counseled that IUC does not protect against sexually transmitted infections (STIs) or pelvic inflammatory disease (PID). IUC poses no increased risk of STIs (or PID-associated infertility) beyond the first month of use, during which there is a slight increased risk of infection due to bacteria introduced into the uterus during IUC insertion.[14] Providers can consider obtaining gonorrhea and chlamydia cultures at the time of IUC insertion for women at risk of STIs. If results are positive, antibiotic treatment should be started, but there is usually no need to remove the device.[15] Providers should encourage patients to use condoms for STI protection.

How can I obtain training on IUC insertion and removal?

Face-to-face training on IUC insertion and removal is available at locations across the country. Check your local chapter of reproductive health professional groups, such as the Association of Reproductive Health Professionals, the American Congress of Obstetricians and Gynecologists, or Planned Parenthood, for training opportunities. In addition, Contraceptive Technology offers training workshops at its conferences.

References

1. Ortiz ME, Croxatto HB. Copper-T intrauterine device and levonorgestrel intrauterine system: biological bases of their mechanism of action. Contraception. 2007;75(6 Suppl):S16-30.
2. Jonsson B, Landgren B-M, Eneroth P. Effects of various IUDs on the composition of cervical mucus. Contraception. 1991;43:447.
3. Trussell J. Contraceptive failure in the United States. Contraception. 2011;83(5):397-404.
4. Skyla (levonorgestrel-releasing intrauterine system) [package insert]. Wayne, NJ: Bayer HealthCare Pharmaceuticals; 2013.
5. ParaGard® T 380A (intrauterine copper contraceptive) [package insert]. Sellersville, PA: Teva Women's Health.
6. Mirena (levonorgestrel-releasing intrauterine system) [package insert]. Wayne, NJ: Bayer HealthCare Pharmaceuticals; 2013.
7. Teva US Medical Information. ParaGard Insertion Tube Specifications. 2013.
8. AHC Media. FDA approves smaller levonorgestrel intrauterine system—a "mini Mirena." Contraceptive Technology Update. 2013. Available at: http://www.ctcfp.org/wp-content/uploads/March-2013-Contraceptive-Technology-Update.pdf. Accessed April 5, 2013.
9. Milsom I, Rybo G, Lindstedt G. The influence of copper surface area on menstrual blood loss and iron status in women fitted with an IUD. Contraception. 1990;41(3):271-81.
10. Milsom I, Andersson K, Jonasson K, et al. The influence of the Gyne-T 380S IUD on menstrual blood loss and iron status. Contraception. 1995;52:175–179.
11. Larsson G, Milsom I, Jonasson K, et al. The long-term effects of copper surface area on menstrual blood loss and iron status in women fitted with an IUD. Contraception. 1993;48(5):471-80.
12. Hidalgo M, Bahamondes L, Perrotti M, et al. Bleeding patterns and clinical performance of the levonorgestrel-releasing intrauterine system (Mirena) up to two years. Contraception. 2002;65(2):129-32.
13. Gemzell-Danielsson K, Inki P, Boubli L, et al. Bleeding pattern and safety of consecutive use of the levonorgestrel-releasing intrauterine system (LNG-IUS)—a multicentre prospective study. Hum Reprod. 2010;25(2):354-9.
14. Grimes DA. Intrauterine device and upper-genital-tract infection. Lancet. 2000;356(9234):1013-9.
15. World Health Organization. Selected practice recommendations. Department of Reproductive Health and Research Family and Community Health. Geneva: WHO, 2004.